

Applicants : Josette Masle et al.
Serial No. : 10/519,135
Filed : August 15, 2005
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Amendments to the Claims:

Please replace all prior versions and listings of claims as follows:

- 1-36. (Canceled)
37. (Currently Amended) A method of obtaining a plants having enhanced transpiration efficiency which comprises transforming a culture of plant cells with a nucleic acid encoding an ERECTA protein having an amino acid sequence set forth in SEQ ID NO: 2 under conditions such that the nucleic acid is transcribed to form a transcription product which is then expressed in the plant cells, generating plants from the culture of plant cells, and selecting for a plants having i) enhanced transpiration efficiency compared to plants generated from the plant cells present in the same culture which were not transformed with the nucleic acid, and ii) the transcription product of the nucleic acid in its leaves.
38. (Currently Amended) The method of claim 37, wherein the method further comprises propagating the selected plant ~~having the enhanced transpirational efficiency.~~
39. (Previously Presented) The method of claim 37, wherein the plant cells of the culture are selected from the group consisting of rice, sorghum, wheat and maize.
40. (Previously Presented) The method of claim 37, wherein the culture of plant cells is transformed with the nucleic acid by transforming the plant cells with a construct comprising a gene which expresses the ERECTA protein.

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41. (Previously Presented) The method of claim 37, wherein the plant cells do not comprise a nucleic acid encoding SEQ ID NO: 2 prior to the transformation.
42. (Currently Amended) A method of obtaining a plant having enhanced transpiration efficiency comprising transforming the a plant with a nucleic acid encoding an ERECTA protein having an amino acid sequence set forth in SEQ ID NO: 2 under conditions such that the nucleic acid is transcribed to form a transcription product which is then expressed in the plant, and selecting for a plants having i) enhanced transpiration efficiency compared to the plant prior to transformation with the nucleic acid, and ii) the transcription product of the nucleic acid in its leaves.
43. (Currently Amended) The method of claim 42, wherein the method further comprises propagating the selected plant ~~having the enhanced transpirational efficiency.~~
44. (Previously Presented) The method of claim 42, wherein the plant is selected from the group consisting of rice, sorghum, wheat and maize.
45. (Previously Presented) The method of claim 42, wherein the plant is transformed with the nucleic acid encoding the ERECTA protein by introgression.
46. (Previously Presented) The method of claim 42, wherein the plant is transformed with the nucleic acid by transforming the plant with a construct comprising a gene which expresses the ERECTA protein.
47. (Previously Presented) The method of claim 42, wherein the plant does not comprise a nucleic acid encoding SEQ ID NO:

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2 prior to transformation with the nucleic acid.

48. (Currently Amended) A method of obtaining a plant having enhanced transpiration efficiency which comprises transforming a culture of plant cells with an ERECTA gene under conditions such that the gene is transcribed to form a transcription product which is then expressed in the plant cells, generating plants from the culture of plant cells, and selecting for a plants having i) enhanced transpiration efficiency compared to plants generated from plant cells presented in the same culture which were not transformed with the gene, and ii) the transcription product of the nucleic acid in its leaves.
49. (New) The method of claim 37, further comprising obtaining seeds from the selected plant.
50. (New) The method of claim 42, further comprising obtaining seeds from the selected plant.